

WHAT IS CLAIMED IS:

1. A seat back structure of vehicle seat, in which the seat back has one side to supportively receive a back of an occupant on the vehicle seat and another side opposite to said one side, comprising:

an elastic back support means provided in said one side of said seat back, said elastic back support means being adapted for resiliently supporting the back of said occupant;

a back board means provided in said another side of said seat back, said back board means having: one side facing to said one side of said seat back; and another side facing to said another side of said seat back;

a movable connection means for connecting said elastic back support means and said back board means with said seat back so as to allow displacement of the back board means in a direction from a home position to one of said one and another sides of said seat back, while allowing the elastic back support means to be resiliently warped in a direction to said one of said one and another sides of said seat back;

a stopper means for preventing movement of said back board means from said home position toward said one side of said seat back, and

a biasing means for normally biasing said back board means to said home position;

wherein said back board means is retained by said stopper means at said home position, thereby notwithstanding a first load applied to said another side of the back board means and allowing the back board means to be usable as a means for carrying load and cargo thereon, and wherein, by contrast, when a second load is applied in a direction to said one side of the seat back, said elastic back support means is resiliently warped toward said one side of said back board means, which in turn causes the back board means to displace toward said another side of said seat back against a biasing force of said biasing means, so that both said elastic back support means and said back board means are resiliently displaced toward said another side of said seat back.

2. The seat back structure as claimed in Claim 1, wherein said back board means comprises one unitary rigid piece of back board member, and wherein said elastic back support means comprises an elastic member of a substantially thin plate configuration.

3. The seat back structure a claimed in Claim 1, wherein said back board means is connected with said back support means.

4. The seat back structure as claimed in Claim 1 which further comprises a seat back frame, wherein said back board means is large in size relative to said seat back frame, and wherein said stopper means comprises a local region of said seat back frame, with such an arrangement that said back board means is resiliently biased into contact with said local region under a biasing force of said biasing means.

5. The seat back structure as claimed in Claim 1, wherein said back board means comprises a plurality of separate plate elements which are movably connected with one another in such a manner that, when said second load is applied toward said one side of said seat back, said plurality of separate plate elements are deformed and warped toward said another side of said seat back against the biasing force of said biasing means, while by contrast, when said first load is applied toward said another side of said seat back, said plurality of separate plate elements are engaged with one another to provide a robust continuous plane and retained by said stopper means at said home position so as to withstand the first load and thereby be usable as a means for carrying load and cargo on the continuous plane.

6. The structure of seat back according to Claim 5, wherein said biasing means comprises a plurality of springs, and wherein said plurality of separate plate elements are movably connected with one another at the respective end portions thereof via said plurality of springs.

7. The seat back structure according to Claim 6, wherein said end portions of said plurality of separate plate elements include vertical regions and horizontal regions, with such an arrangement that said vertical regions are slidably engaged with said horizontal regions.

8. The seat back structure as claimed in Claim 1 which further comprises a seat back frame so formed to have at least four sides, wherein said movable connection means, said stopper means and said biasing means are arranged on each of said at least four sides of said seat back frame, and wherein said elastic support means and said back board means are connected with said movable connection means.

9. The seat back structure as claimed in Claim 1, wherein said movable connection means comprises: first engagement elements provided in said seat back; second engagement elements provided to said back board means, said second engagement elements being movably engaged with said first engagement elements; and peripheral bolster cover portions defined along lateral sides of said seat back, said peripheral bolster cover portions being formed from an elastic material that is extendable and contractible, wherein said biasing means comprises said peripheral bolster cover portions, and wherein said peripheral bolster cover portions are connected between said back board means and said elastic back support means.

10. The seat back structure as claimed in Claim 1, wherein said movable connection means comprises: first engagement elements provided in said seat back; second engagement elements provided to said back board means, said second engagement elements being movably engaged with said first engagement elements; and rotary support elements rotatably provided in said seat back, wherein said elastic back support means is connected by said first and second engagement elements with said seat back, and wherein said back board means is movably connected by said rotary support elements with said seat back.

11. The seat back structure as claimed in Claim 1, wherein said movable connection means comprises: first engagement elements provided in said seat back; second engagement elements provided to said back board means, said second engagement elements being movably engaged with said first engagement elements; and rotary support elements rotatably provided in said seat back, wherein said elastic back support means is connected by said first and second engagement elements with said seat back, wherein said back board means is connected by said rotary support elements with said seat back, wherein said back board means comprises a plurality of separate plate elements which are movably connected with one another in such a manner that, when said second load is applied toward said one side of said seat back, said plurality of separate plate elements are deformed and warped toward said another side of said seat back against the biasing force of said biasing means, while by contrast, when said first load is applied toward said another side of said seat back, said plurality of separate plate elements are engaged with one another to provide a robust continuous plane and retained by said stopper means at said home position so as to withstand the first load and thereby be usable as a means for carrying load and cargo on the continuous plane.

12. The structure of seat back as claimed in Claim 1 which further comprises a seat back frame so formed to have at least four sides, wherein said movable connection means comprises: first engagement elements; second engagement elements provided to said elastic back support means, said second engagement elements being movably engaged with said first engagement elements; and rotary support elements, wherein said first engagement elements, said rotary support elements, said stopper means and said biasing means are arranged on each of said at least four sides of said seat back frame, such that said back board means is connected by said rotary support elements with said at least four sides of said seat back frame so as to be movable in the direction from said home position to said one of said one and another sides of said seat back with respect to said seat back frame, while said elastic back support means is connected by said first and second engagement elements with said at least four sides of said seat back frame so as to be able to be resiliently

warped in the direction to said one of said one and another sides of said seat back with respect to said seat back frame.

13. The structure of seat back according to Claim 12, which further comprises a first connecting means provided to said rotary support elements and a second connecting means provided to said back board means, such that said first connecting means is movably connected with said second connecting means, and wherein said stopper means comprises a local region of said each of said at least four sides of said seat back frame, with such an arrangement that said rotary support element is resiliently biased into contact with said local region under a biasing force of said biasing means, thereby normally retaining said back board means at said home position, while allowing rotational movement of said rotary support elements from said local region toward said another side of said seat back relative to said at least four sides of said seat back frame and simultaneously allowing translational movement of said back board means away from said home position toward said another side of said seat back with respect to said at least four sides of said seat back frame.

14. The structure of seat back according to Claim 13, wherein said rotary support elements are rotatably connected by a hinge means with said at least four sides of said seat back frame, wherein said hinge means is disposed at a point outwardly of said seat back frame, wherein a connecting pin is provided in one of said first and second connecting means and an elongated hole is formed in another of said first and second connecting means, and wherein said connecting pin is slidably engaged in said elongated hole so as to insure to allow for said rotational and translational movements respectively of said rotary support elements and said back board means.